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DISCUSSION AND CORRESPONDENCE

THE ESKIMO SCREW AS A CULTURE-HISTORICAL PROBLEM

THE highly interesting article of Mr Morten P. Porsild, *The Principle of the Screw in the Technique of the Eskimo*,¹ is fully entitled to the serious attention of all students interested in technology and the general development of human culture. The positive conclusion that "the principle of the screw is an old and original invention of the Eskimo, executed by a method of his own," indicates a problem of so great importance, that it cannot be left unnoticed or viewed with indifference by the historian of civilization. It is from the latter's point of view that I wish briefly to discuss the problem raised by Mr Porsild, and the remarkable conclusions reached by this scholar. By way of apology, I feel I have to state at the outset that I thoroughly disclaim any special knowledge of the Eskimo and their culture, and that the insignificant knowledge I may have of the subject is solely based on accessible literature and museum material. In anticipation, however, of criticism of my opinion on the part of students of real Eskimo life, which I should certainly be pleased to receive, I may say that my sympathy for this admirable people is no less than their own, and that my views are not biased by any sentiment in the matter. The principal question which I endeavor to answer for myself, and for others similarly inclined, is, Will the universal history of human culture be able to accept Mr Porsild's result as a definite fact, and how will it be reconciled or assimilated to other allied facts known to us? In other words, what is the position of the Eskimo screw in the general history of this mechanical device? And if it be true that the screw is an original and independent contrivance of the Eskimo, how will the previous views held concerning the development of the screw be affected or modified by the amazing thesis of Eskimoan originality? In using the word "amazing," I strike a keynote untouched by Mr Porsild. Amazing it is, because the Eskimo are the only known primitive tribes in the world acquainted with the application of the screw; and not only that, even the most advanced civilizations of antiquity—like those of ancient Egypt, Mesopotamia, India, and China—have never as yet yielded the slightest trace that would reveal any familiarity with

¹ *American Anthropologist*, N. S., vol. 17, pp. 1-16.

a screw device. The Chinese, we know positively, never were acquainted with it, but learned it only in the possession of Europeans, and have not yet adopted it in their home industries. The screw is an exclusively and decidedly European invention, peculiar to the Mediterranean culture area, in all probability first conceived by Greek mechanicians approximately in the second or first century B.C. It represents one of the most recent, if not the very latest, of all human implements. In view of these facts, which are here cited merely for preliminary information, the problem of the Eskimo screw does not appear to me so simple and so easy of solution, but, on the contrary, extremely complex; and the whole question merits renewed and more profound discussion in the light of the history of the screw.

Before entering on this subject, I may be allowed to add some bibliographical references which seem to have escaped the attention of Mr Porsild. In 1901, E. Krause, at the Museum für Völkerkunde in Berlin, published a brief article on the Eskimo screw.¹ He spontaneously discovered the screw in three arrow-heads with points of reindeer-antler, collected in 1882 and 1883 by Captain J. A. Jacobsen at Singrak, Alaska. These are well figured and described in his article. Krause made a plea for the native origin of the screw, though the interrogative form of the title of his article shows that he was not fully confident of his proposition. He advanced two reasons which induced him to ascribe the invention to the Eskimo: if the Eskimo screw had originated in imitation of an introduced screw, it would certainly have received more threads, in harmony with the latter, instead of only the one which it has; there are further rudimentary screws forming a missing link between the pegs with a single thread and the usually conical or also double-conical peg of the arrow-heads. Krause's opinion was immediately antagonized by K. von den Steinen,² who most emphatically denied that the Eskimo ever invented the screw. This ethnologist adopted an historical point of view in the study of the subject, without, however, citing positive and specific historical facts which would substantiate his theory that the Eskimo screw is the result of attempts to reproduce imported European models. He generally invoked the commercial intercourse of the Alaskan Eskimo with Chukchee and Russians, and, among other things, appealed to a deserted and well-preserved telegraphic station on Bering Strait, erected in 1867, and visited by Jacobsen.

¹ "Die Schraube, eine Eskimo-Erfindung?" *Globus*, Vol. LXXIX, 1901, pp. 8-9 (7 figs.).

² "Die Schraube, keine Eskimo-Erfindung," *Globus*, Vol. LXXIX, 1901, pp. 125-127 (9 figs.).

The fact that the Eskimo opposite the Asiatic East Cape, twenty years ago, had ample opportunity of acquainting themselves with European screws, cannot be contested, Von den Steinen concludes. This possibility nobody will deny, but possibilities are not historical facts. The question first to be answered would be, Were screws of European or American origin ever actually found among the Alaskan or other Eskimo? The present evidence, as conscientiously gathered by Porsild, surely points to a far greater age of the screw than a mere score of years. It was the merit of Von den Steinen at that time, however, to have increased the material available for discussion by thirteen interesting objects. Among these are arrow-heads from graves in the western part of Greenland, showing well-developed screws. This afforded Von den Steinen occasion for the conclusion that, if it is difficult to believe in the Eskimo invention of the screw, it is indeed impossible to assume that it should have been invented by them twice,—once in the west, and once more in the east,—and in both cases in those localities where they were well acquainted with European iron-ware. The left-handedness of the Eskimo screw was explained by Von den Steinen in the same manner as by Ryder and Porsild. He figured also a wooden pole in which a right-handed screw of fourteen rather regular grooves is carved,—very similar to the object illustrated by Porsild in Fig. 7. In conclusion, he generalized that the Eskimo were particularly gifted at learning technical stunts from Europeans, as emphasized by observers; the screw is merely an occasional and sporadic application of an introduced technique, whose influence on the Eskimo we are perhaps inclined to undervalue also in other lines. None of these arguments, to which we shall revert further on, really hits the case, and none is convincing to me.

Half a year later Miss H. Newell Wardle of Philadelphia took the platform.¹ She reviewed Eskimo material in the Museum of the Academy of Natural Sciences, Philadelphia, and rejected Von den Steinen's views, for the reason that the same ideas must originate in the same states of culture or in similar environments, intellectual or economic. "The intellectual abilities of the Eskimo cannot be doubted, their inexhaustible ingenuity has astounded all observers, and even the Aryan did not think it below his dignity to appropriate the more perfect harpoon of his 'barbaric' brother whale-hunter." Miss Wardle tried to explain the left-handed Eskimo screw from the spirally twisted tusk of the narwhal, which the people should somehow have attempted to imitate. This suggestion, however ingenious, is not plausible; we may even say it is rather improbable.

¹ "Die Eskimos und die Schraube," *Globus*, Vol. LXXX, 1901, pp. 226-227 (3 figs.).

If the Eskimo are acquainted with the screw, the main question that arises is, What relation does it bear to the European screw? And what is the history of the latter? We have no opportunity of studying the gradual development of this device, like that of so many other implements. It all of a sudden appears as an accomplished fact, scientifically understood and applied. Its first description and illustration, at once intelligent and scientific, we owe to the genius of Heron of Alexandria, instructor of a school for mechanicians and surveyors, and the most prominent physicist produced by the ancients. His lifetime is not exactly ascertained; but, in the judgment of the latest and most competent scholars, he lived in the second half of the second century B.C., while others assign him to the first century A.D.¹ The Greek original of Heron's work on mechanics is lost; but it is preserved in an Arabic translation, ordered by the Caliph Abu'l Abbās Ahmed Ibn al-Mutasim (833-842), and extant in four manuscripts (Leiden, British Museum, Constantinople, and Cairo).² The screw,³ according to Heron, forms the fifth of the six mechanical powers, and is theoretically explained from a cylinder moving over a plain. A side of the cylinder is supposed to be in motion, and a point to move on this side from its extremity; this point runs through the whole side in the same interval as it takes this side to turn once around the surface of the cylinder and to come back to its starting-point. The curve described by this point on the cylindrical surface is the thread of a screw, designated as the screw. Then Heron proceeds to describe minutely the making, use, and properties of screws, single, and in combination with other mechanical powers.⁴ The most interesting of these instruments is the screw-press employed in the production of olive-oil.⁵ Oil being one of the chief articles of food among the ancients, the mechanical improvement of the oil-presses was a matter of large bearing upon economic progress. Pliny⁶ informs us that

¹ W. Schmidt, *Heronis opera*, Vol. I, p. xxiv (Leipzig, 1899).

² First edited by Carra de Vaux, *Les mécaniques ou l'élèveur de Héron d'Alexandrie publiées pour la première fois sur la version arabe de Qostā ibn Luqā et traduites en français*. Paris, 1894 (Extrait du *Journal asiatique*). Best edition by L. Nix in Nix and Schmidt, *Heronis opera*, Vol. II, fasc. 1 (Leipzig, 1900).

³ Greek *kóχλος* or *κοχλίας* (Latin *cochlea*), which originally means "a snail with a spiral shell." The female screw is *περικόχλιον*; Latin has no word for the latter.

⁴ Carra de Vaux, *l. c.*, pp. 101-106; Nix, *l. c.*, pp. 104-112. A small portion of Heron's work on mechanics is preserved in the "Synagoge," the mathematical collection of Pappus of Alexandria, who lived under the Emperor Diocletian (285-305). Among these fragments is also the description of the screw (Nix, *ibid.*, pp. 283-291).

⁵ Nix, *ibid.*, pp. 240-252 (with two illustrations).

⁶ *Nat. hist.*, XVIII, 74, § 317 (ed. Mayhoff, Vol. III, p. 231).

the ancients used to hold down the press-boards with ropes and leather thongs, wrought by levers; that within the last hundred years the Greek press (*Graecanica*) had been invented, in which the grooves of the male screw pass through and around the female screw;¹ and that only within the last twenty-two years had a less unwieldy press with smaller boards been contrived. In this apparatus the stem of the screw was placed in the center. The screw was directly utilized in the act of pressing, the whole pressure being concentrated upon broad planks placed over the olives or grapes. Representations of presses have come down to us on wall-paintings of Pompeii; for instance, a clothes-press, which is worked by two upright screws, precisely in the same manner as our own linen-presses.²

Besides the screw-press, the ancients were acquainted likewise with the employment of screws for magnifying a motion and rendering it easily manageable and measurable,—the same principle as we still apply in the screw-feet of instruments of precision. The vaginal specula of the Roman surgeons were provided with screws to open or close the bows of these instruments according to need. Three specimens discovered in Pompeii are in the Naples Museum. They are illustrated and described by J. S. Milne.³ In one of these, 23 cm. long, the blades are at right angles to the instrument, and when closed form a tube the size of the thumb. On turning the screw, a cross-bar forces the two upper blades outward till sufficient dilation is secured for operative purposes. In

¹ This passage offers many technical difficulties, the discussion of which would be out of place here. I have adopted the interpretation of H. Blümner (*Technologie und Terminologie der Gewerbe und Künste bei Griechen und Römern*, Vol. I, 2d ed., p. 348). According to Nix and Schmidt (*Heronis opera*, Vol. II, p. 388), who reproduce the text of Pliny, this kind of press survived in the Canton of Graubünden till the seventeenth and even the nineteenth century.

² Figured by Blümner, *l. c.*, p. 188; Overbeck-Mau, *Pompeji*, p. 393; W. Smith, *Dictionary of Greek and Roman Antiquities*, Vol. I, p. 464. Aside from Pliny, the screw is mentioned by the architect and engineer Vitruvius (*De architectura*, VI, 7, 3), who lived in the first century B.C.; it was therefore known to the Romans before Pliny's lifetime. In the translation of M. H. Morgan (Vitruvius, *The Ten Books on Architecture*, p. 184, Cambridge, 1914) the passage runs thus: "The pressing room itself, if the pressure is exerted by means of levers and a beam, and not worked by turning screws, should be not less than forty feet long, which will give the lever man a convenient amount of space." E. Krause, accordingly, in his article in *Globus* cited above, was entirely misguided in asserting that "the Eskimo had advanced much further than the highly cultivated and over-refined Romans in the age of the imperium; for despite their progressive culture they did not know the screw." K. von den Steinen, in his reply, quoted this observation without adding any comment.

³ *Surgical Instruments in Greek and Roman Times*, pp. 151, 152 (Oxford, 1907).

another, on turning the screw, the lower blades could be drawn downward, at the same time separating slightly, while the upper blades diverged also. In one instrument the screw is left-handed; in another, right-handed. Paulus of Aegina, a celebrated physician of the seventh century A.D., in his description of the speculum, does not fail to call attention to the screw, which he says is to be turned by the assistant, while the speculum itself is to be held by the operator.

As to the further history of the screw,¹ it may suffice for the purpose in view to emphasize two important facts,—first, that the Romans passed the principle of the screw on to the peoples of central Europe, to whom it was a foreign affair; in short, that the modern development of the screw is an inheritance of classical antiquity; and, second, that the Arabs derived their knowledge of it from the Greeks. Reference has already been made to the Arabic translation of Heron's fundamental work on mechanics, in which the principle and application of the screw are described theoretically and practically. The most prominent of the native Arabic works on technology is the *Mafātīh al-ulūm* (*Keys of the Sciences*), by al-Khārizmī, a mathematician who lived about 820 under the caliphate of Mamun. He describes the screw (*al-laulab*) as a well-known contrivance employed by carpenters and architects in laying foundations; and he mentions the oil-press in conformity with Heron, his term for the latter, *al-gālājarā*, being reproduced from the Greek γαλέαγρα.² The history of the screw, accordingly, presents an unbroken chain of development which is well determined within the area of Mediterranean

¹ A history of the screw has not yet been written. What F. M. Feldhaus (*Technik der Vorzeit*, col. 981, Leipzig, 1914) offers on this subject can hardly be looked upon as a useful or trustworthy contribution, as it suffers, like many articles in this technological dictionary, from serious defects, lack of criticism and historical sense, misinformation and inaccuracy. The so-called Archimedean screw (see Blümner, *l. c.*, Vol. IV, pp. 121–126; and C. G. de Montauzan, *Essai sur la science et l'art de l'ingénieur aux premiers siècles de l'empire romain*, pp. 90–91, Paris, 1908), which is a spiral pump for raising water, with a pipe coiled like a screw, is not to be connected with the history of the screw proper, as asserted by Feldhaus; still less so what he styles the peculiar thread of a screw in the spindle whorls of the Himalaya. These whorls are quite familiar to me, and are decorated with grooves of concentric circles which have nothing to do with the threads of a screw. According to Feldhaus, the screw-line occurs as ornament as early as the bronze age, particularly in the large rings for the neck. Such twisted metal rings, as occur also in China in the form of bracelets or in the handles of vessels, are modelled after ropes, and, at any rate, bear no relation to a screw. The fundamental passages of Heron's work on mechanics are not pointed out or discussed, while reference is made to an incidental mention of the screw in his *Pneumatica*.

² E. Wiedemann, "Zur Mechanik und Technik bei den Arabern" (*Sitzungsber. phys.-med. Soz. Erlangen*, Vol. 38, 1906, p. 21).

civilization. The screw is not an invention of primitive man: in the works of ethnologists (for instance, in those of Lubbock, E. B. Tylor, O. T. Mason, H. Schurtz, etc.) it is conspicuous by its absence. Neither is it a prehistoric invention: prehistoric archeology is reticent about it. It is a comparatively late invention of historical times, appearing under the full searchlight of history. The ancient Greeks and Romans, as well as the ancient Egyptians, were still in complete ignorance of it, till it unexpectedly came to light in the Alexandrian epoch. We cannot say exactly when, where, and under what circumstances, the idea sprang up. Certain it is that the first invention was conceived on Egyptian soil, perhaps within the precincts of Alexandria, by men of thorough mechanical training, presumably those attached to or in close touch with the scientific schools of the great Hellenistic emporium. We hear nothing of experiments gradually leading to the idea: it was born like Pallas Athene from Jupiter's head,—a clear, self-conscious, and accomplished fact. Whether those mechanics were Egyptians or Greeks (Heron was probably an Egyptian) cannot be decided, either. The only safe formula to express the event is that the invention was accomplished within the time and boundary of Hellenistic civilization in Egypt, during the second or first century prior to our era. In the first century B.C. it spread from Egypt or Hellas to Italy. We further note that the screw then was not an accidental or passing toy, but, as a matter of necessity, was applied with perfect logic and volition to machines or instruments, which without it were clumsy and inefficient, and which in combination with it were suddenly turned into highly useful and time-saving devices, denoting a rapid step of technical and economic progress.

In applying this lesson to the Eskimo screw, we fail to see this idea of absolute necessity, essential function, and technical progress, in the adoption of the screw, however manifest its purpose may be. The Eskimo implements provided with this device are not only conceivable without it, but, in the case of the arrow-heads and plugs, in fact are so made. There is no Eskimo implement in which the screw fulfills so indispensable a function that it would not be equally effectual if it were devoid of it. In the mechanical contrivances of the ancients we readily recognize the motive prompting the introduction of the screw, while the motive is not conspicuous in the Eskimo screw devices; at least, students of Eskimo culture have not yet discussed this side of the question. Another point to be noticed is that Eskimo knowledge of the screw is somewhat limited or one-sided, inasmuch as only the male screw, not the female screw, is known to them; and in case the theory of indigenous

origin can be upheld, more stress should be laid on the study of the diversity of Eskimo screws from our own. Our inquiry bears out the fact that the Eskimo screw is an isolated and exceptional case in ethnic life, outside of our own culture sphere; and this is the very reason why the case is so intensely interesting and sympathetic. If the originality of this invention among the Eskimo could unobjectionably be proved, the case would certainly be remarkable, and would considerably affect and influence our opinions regarding analogous phenomena. It would stand out as an illustration of the first order, of independent invention. In view of this significance, however, we must insist on intrinsic and clean-cut evidence which is acceptable to the thinking majority; while at the outset such broad generalizations, based on theorizing speculations, as those advanced by Von den Steinen and Miss Wardle, should be strictly barred. The conclusion, for instance, that the Eskimo could not have invented the screw, because many other peoples of a higher degree of culture never invented it, and because this supposition would seriously disturb the circle constructed by us for the history of "our" screw, might prove also a fallacy, although the extraordinary isolation of the Eskimo screw remains a fact not easily to be disregarded. Everything is possible, and nothing is impossible. The possibility that the Eskimo might have conceived the principle of the screw independently must plainly be admitted. I for my part not only admit this, but even wish that definite proof might soon be established beyond any doubt. For the present, however, I have to confess that, despite all the meritorious efforts hitherto made, exact evidence in favor of Eskimo originality does not yet seem to me to be satisfactory or positively assured. We have had expressions of opinion from our prominent Eskimo scholars—opinions highly valued, as they are based on solid information—but we have not yet heard from the Eskimo themselves, who should be induced to take the witness-stand in their own defence. May I venture to suggest to Mr Porsild, who apparently is stationed among the people in Greenland, that he question his friends as to their knowledge of the bolder man, who, as the first among them, ventured on the manufacture of a screw, and what reasons prompted him to embark on this scheme? Should the folklore of the Eskimo not make any allusion to this device? Also they may be able to throw some light on the possible interrelation of it and the narwhal-tooth suggested by Miss Wardle, though this idea appears somewhat romantic. The evidence, as summed up by Mr Porsild on p. 15, is not wholly convincing; at least, not to an outsider, who, like the writer, is willing to be convinced. The utmost

concession I can make to him is, that his conclusion is a theory—a very attractive and suggestive one, to be sure—but certainly it is very far, as asserted by him, from becoming a fact which might readily be accepted by science. The “facts which lead to the belief that screw-bearing implements were made before the advent of Europeans into West Greenland,” strictly speaking, are not facts, but suppositions elicited from certain observations, and formulated in a somewhat dogmatic manner. The linguistic evidence gives rise to suspicion. The lack of a proper word for the screw, though not conclusive, augurs a serious defect; at least, it is disappointing. If it existed, if it were named, for instance, “narwhal-tooth,” in analogy to the Greek “snail,”¹ my faith in the theory of indigenous invention would be considerably strengthened. It is certainly possible that the lacunae still existing in our knowledge of the subject (lack of necessity and motive, absence of direct Eskimo information, deficiency of circumstantial evidence), and militating against the opinion of native invention, will be filled in the course of time; but, as long as these postulates are not satisfied, it will be safer to hold judgment in abeyance.

While, on the one hand, I am of the opinion that the case of those pleading the aboriginal invention of the Eskimo screw is not yet substantially backed up, I must confess, on the other hand, that the argumentation of Von den Steinen, who, as far as I know, is the only one to take the opposite stand, is weak, and does not at all carry conviction with me. Von den Steinen would have us believe that the Eskimo of Alaska and those of Greenland, independent of each other, constructed the screw in imitation of foreign products; but he omits to tell us why this double attempt at imitation yielded exactly the same results, and, while there is no other example of a primitive tribe which made a similar effort, the Eskimo in two widely different regions and at different times should have successfully performed the same experiment twice. This point of view seems to me more miraculous than the supposition of the native origin of the screw; it even seems to me to be inspired by poetic rather than scientific insight. It is inconceivable to me that this process of imitation should have taken place at various times and in various localities. If imitation it is, this act must be reduced to the experience of a single primeval occasion, which takes the responsibility for all subsequent instances. With Boas and Porsild, I concur in the opinion that

¹ This, of course, would not mean that Miss Wardle's theory has the right of existence. The ancients did not learn the principle of the screw from the snail, but merely termed it for the snail by way of comparison.

we have to do with a uniform phenomenon affecting all Eskimo tribes alike; and these scholars are certainly justified in regarding its wide geographical distribution and its occurrence in isolated places and ancient sites as symptoms of a certain antiquity.

Thus far we have been confronted with two opinions diametrically opposed,—the declaration of independence and the imitation theory. There remains, however, a third point of view to be taken into consideration. Let us start from an analogous case. The wood-carved snow goggles of the Eskimo with narrow horizontal slit, commanding a sufficient range of vision, without any doubt, represent spontaneous and indigenous invention of this people. Besides this type of goggles, there is another one with two large apertures assuming the outline of the eyeballs, and covered on the inner side with sheets of American or European glass.¹ The latter type, in my opinion, is the result of an adaptation (probably recent) to European-American spectacles or goggles. Accordingly we here face a foreign idea grafted upon an object of old native manufacture, and seemingly producing a net result which might lead the casual observer to condemn the whole affair with the sweeping judgment of being due to an outside impetus. But we have only to study carefully the large varieties and variations of slit-goggles in order to become convinced of the utter baselessness of such a grotesque generalization. This example illustrates that native inventiveness does not preclude the reception of foreign technical features, if these are apt to improve the object or to be pleasing to its makers. An allied process may have been in operation in the case of the screw. Granting the possibility of the comparatively great antiquity of the latter, two characteristics are discernible which in my opinion would speak in favor of a germ of native pre-invention. These are the simple single-threaded screw first emphasized by Krause, for which, as far as I know, no analogy exists in our technique, and the screw-like designs cut into the wedge-shaped plugs for closing the wounds of the seal. In the variations of the latter implement, the history of the development of the technique is perhaps preserved. We note plain pegs, those provided with horizontal, parallel grooves, and those with grooves cut spirally.² Did the screw of the latter, perhaps, result from the design of grooved circles? This primitive

¹ This observation refers to three goggles in the collections of the Field Museum, Chicago (Cat. Nos. 13820, 20288, and 53295), from the Alaskan Eskimo. Also O. T. Mason ("Primitive Travel and Transportation," *Report of U. S. Nat. Mus. for 1894*, pp. 293, 294, 296) has pointed out this type as a "modern adaptation."

² Compare Boas, "Eskimo of Baffin Land and Hudson Bay" (*Bull. Am. Mus. Nat. Hist.*, Vol. XV, 1901, p. 21); and Porsild, *l. c.*, p. 12.

foundation being given, foreign ideas could have been adapted to or transplanted on it. After all, it remains an open question whether the Eskimo screw, technically speaking, may not have had an origin different from that of our own. The fact that it is this very origin which is still shrouded in mystery accounts for the obscurity from which the whole subject labors, and for the variation of possible opinions.

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THE "RED PAINT PEOPLE" OF MAINE.

In justice to New England archeology I cannot let pass unnoticed the communication of your correspondent on page 207 of the preceding number of the *American Anthropologist*. Mr Bushnell says: "The graves discovered by Mr Moorehead on the coast of Maine differ in no respect from those rifled by the Pilgrims near the present Provincetown." This is a statement which facts do not justify. The grave at Cape Cod to which Mr Bushnell especially refers is described by the Pilgrims as follows:¹

Wee found a place like a graue, but it was much bigger and longer than any that we had yet scene. It was also covered with boords, so as we mused what it should be, we resolved to digge it vp, where we found, first a matt, and vnder that a fayre Bow, and there another Matt, and vnder that a boord about three quarters long, finely carued and paynted, with three tynes, or broches on the top, like a Crowne; also betweene the Matts we found Boules, Trays, Dishes, and such like Trinkets; at length we came to a faire new Matt, and vnder that two Bundles, the one bigger, the other lesse, we opened the greater and found in it a great quantitie of fine and perfect red Powder, and in it the bones and skull of a man. The skull had fine yellow haire still on it, and some of the flesh vnconsumed; there was bound vp with it a knife, a pack-needle, and two or three old iron things. It was bound vp in a Saylers canvas Casacke, and a payre of cloth breeches; the red Powder was a kind of Embaulment, and yielded a strong, but no offensiue smell; It was as fine as any flower. We opened the lesse bundle likewise, and found of the same Powder in it, and che bones and head of a little childe; about the leggs, and other parts of it was bound strings, and bracelets of fine white Beads; there was also by it a little Bow, about three quarters long, and some other odd knackes; we brought sundry of the pretiest things away with vs, and covered the Corps vp againe. After this, we digged in sundry like places, but found no more Corne, nor any things els but graues: There was varietie of opinions amongst vs about the embalmed person; some thought it was an *Indian* Lord and King: others sayd, the *Indians* haue all blacke hayre and never

¹ *Journal of the Pilgrims at Plymouth*, Cheever reprint, p. 38.